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The Skinny on NLM's System Reinvention

by Jean Sayre, Associate Director

As many of you have noticed, things have been changing at the National Library of Medicine (NLM). From the DOCLINE enhancements introduced in early 1997 to the new National Online Training Center (NOTC) classes beginning this year, significant changes in NLM operations, products, and services continue to evolve as we move into the new year. What has sparked all these changes? The NLM System Reinvention, a response to a federal initiative to improve effectiveness and efficiency in U.S. government agencies.

For NLM, reinvention means transitioning from the old, legacy mainframe systems to more modern computing technologies. As this has obviously already started to affect the way health sciences librarians work, this issue of ***3 Sources*** focuses on the reinvention process and what it might mean for our network members. We've asked members of the NLM staff to give some insight on how this process works. Kent Smith, Deputy Director of NLM and the project director of the reinvention, provides an overview of the process. Becky Lyon and Zoe Stavri report on the 1997 NLM Internet Survey. Betsy Humphreys details the role of the Unified Medical Language System (UMLS) in the system reinvention process, while Lou Knecht and Rhonda Allard report on the future of PubMed and IGM.

This issue also features an article by John Daniels, John Redwine, and Cathy Perley on convincing hospital administrators of the importance of Internet access for the library, and TechNotes features an overview of using documents saved as PDF files. We also report on the passing of the Grateful Med software programs and information on the NLM automatic SDI service moratorium.

We hope this issue provides you with an understanding of the changes at NLM and why they are taking place. If you have any questions, please contact us or call NLM directly at 888-FIND-NLM.

NLM System Reinvention: An Overview

by Kent A. Smith, Deputy Director, NLM and Project Director, NLM System Reinvention

Federal Reinvention Program

The National Library of Medicine (NLM) has been designated a Federal Reinvention Laboratory under a broad vice-presidential initiative to improve the effectiveness and efficiency of the U.S. Government known as the National Performance Review. In exchange for a commitment to make rapid improvements in their operations, Federal Reinvention Laboratories receive special delegations of authority in procurement, personnel, and budget, which help to cut through administrative red tape. The government reinvention program also loosens restrictions on customer surveys, making it easier for NLM to ask its users about such things as computer platforms, Internet access, etc. So essentially reinvention at NLM empowers employees to re-engineer system processes with effective input from our user community.

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Downloading, Viewing, and Saving PDF Files

by Cara Wilhelm, Communications Coordinator and Chris Shaffer, Technology Coordinator

What is Portable Document Format (PDF)?
PDF is a format for saving documents that allows cross platform viewing. In other words, a document saved in PDF will retain its original layout and design regardless of the platform used to view it. For example, if I create a brochure using PageMaker on a Power Macintosh, I can save the document in PDF and send it to a colleague with a PC, who can view it using free software. The colleague does not have to have the same type of hardware or software used to create the brochure, just a PDF viewer. In creating this newsletter, the printer and I emailed PDF files back and forth until the finished product satisfied our expectations. Without PDF, we would have had to rely on printed copies.

Why is PDF used on the Web?
Hyper Text Markup Language (HTML) also works across platforms. So why is PDF sometimes used instead of HTML? Because it's easy. PDF isn't really used instead of HTML, but along with it. A link to a PDF document can be embedded into the HTML code of a Web site, and mounting a PDF file is a quick way to publish printed material on the Web, for it maintains the look and design of the original publication (important for corporate image). It works best when the information being presented is static. Translating a document to HTML using the same graphics and fonts could take a great deal of time and energy. Because you can save documents in PDF with most word processors and document management programs, publishing PDF just means creating a link to a file on a web server. Viewers who click on the PDF link launch their PDF viewer to display the document.

How do I get a PDF viewer?
There are plans to integrate PDF viewers into browsers like Netscape and Internet Explorer. Of course, we first heard of these plans several years ago. Until that time, when you click on a PDF file you will usually be prompted to choose a helper application. This means the browser is asking which program to use to view the PDF file. If you already have a program that can display PDF, great. If not, one possibility is the free Acrobat Reader, which you can get from **<http://www.adobe.com/>**. You will need to select the correct platform (e.g. Windows 3.1 or 95, Macintosh) to make sure you download the correct version of the program. Once downloaded, follow the easy instructions included with the Acrobat Reader to install it on your computer.

How do I tell my Web browser where my PDF viewer is?
Once you have selected or installed a PDF viewer, you need to tell your Web browser where it is. This can be tricky. When you install your viewer, you should write down the name of the folder or directory in which it was placed. In newer browsers, when you click on a PDF link, the browser will ask where your PDF viewer is. You'll have to find the folder or directory that has your PDF viewer and tell your browser which program is the one to use (hint: the Acrobat Reader is named ACRORE-AD). If you have an older browser, you should consider upgrading it. In the meantime, ask someone in the know how to configure a helper application for your browser.

How do I view PDF documents on the Web?
Click on a PDF link. Most Web browsers offer you two options at this point: "open it" or "save to disk." "Open it" allows you to view the file immediately with your PDF viewer, but will not save the file permanently. The "save it to disk" option lets you save the PDF file to your hard drive to view later. Another way to "save to disk" is right-clicking on the link. Because there is a slim possibility that PDF files may contain viruses, it is suggested that you only download files from sites you trust (or invest in a good virus checker).

Software cited in this article:
Extensive information regarding the use of the Acrobat Reader and PDF files is available on the Adobe Acrobat Web site at **<http://www.adobe.com/>**.

(Disclaimer: Software products mentioned are examples only. The NN/LM GMR does not recommend, endorse, or guarantee any of these products.)

Negotiating a Win/Win: Convincing Hospital Administration to Connect You to the Internet

by John Daniels, President and CEO; John Redwine, D.O., Vice President;
and Cathy Perley, Media Services Manager, St. Luke's Regional Medical Center

Hospital administrators are responsible for effective allocation of scarce resources—getting maximum value from every investment. How can you convince them that connecting to the Internet is a wise investment? A multidisciplinary team at St. Luke's Regional Medical Center in Sioux City, Iowa, prepared an Internet Connection Grant request that was approved by the National Library of Medicine in 1995. We now support approximately 200 hospital and physician users. A recent survey indicated that many of our hospital Internet account users consider their Web access as just another business tool, like the telephone and the fax machine. In other words, they can't imagine doing their jobs efficiently without it.

If you're planning to seek Internet access for your hospital, the following suggestions based on our experience may be useful:

Know what you're talking about.
Know your facts—generalities are not convincing. What type of Internet access is available in your area? What are one-time and ongoing costs? What are specific Web sites or discussion forums that could benefit the people at your hospital?

Borrow Internet access, if necessary, to prime the pump.
If you don't have an Internet account at home, find friends or colleagues who have Internet access and ask them if you can sit down with them to do few sample searches.

Tempt potential supporters with free samples.
Find out what your administrators and other hospital colleagues are working on and retrieve information you think will be useful for them over the Internet. If possible, drop by their offices in person to deliver it. While you want to avoid harassing people, keep in mind the advertising adage that information needs to be repeated seven times before it will stick in people's minds.

Pay attention to information overload.
Administrators and physicians are inundated with incoming mail, journals, proposals, and pitches. Turn this to your advantage. Is there some way that Internet access could help them streamline work, or work more quickly, more effectively?

Make it a team effort.
Talk up the Internet among your hospital colleagues. Find out who's interested enough to support Internet access and form a multidisciplinary team. Make sure at least one information resources person is on the team and listen to what that person says. Many voices speaking in unison are more effective than one voice.

Include physicians on your team.
Administrators pay attention to the needs of physicians. Look for support from your physician customers and keep track of how often they ask you about information that's available over the Internet. If possible, recruit at least two to be members of your team. Ideally, one would be an established physician with solid standing at your hospital and the other would be a more recent graduate of a medical program. Administrators will be interested in both perspectives.

Be judicious in your salesmanship.
Keep a record of the people who request Internet accessible information as well as how many times they do so. You need to document an ongoing need. But never imply that the Internet has all the answers. It's an important tool, but it's neither the only nor the best resource for all information needs. You know that. Make sure everyone else at your hospital does too.

Think ahead.
Should your hospital's healthcare professionals be in the library or on the patient care floors? Think about expanding Internet access to other areas of the hospital, if they don't already have access. Will your Internet provider offer a discount for a small block of accounts as a public service?

Plan and budget for training.
Don't try to be the gatekeeper on Internet information, if that means letting only you through the gate. You'll get run over. Plan a customized training program for others in the hospital, and be prepared to support any new Internet users for some time. Encourage others to contact you for the best advice on search strategy and circulate lists of useful Web sites.

Promote productivity.
Make sure that administrators and colleagues know that Internet use would be for business and clinical care reasons. Collect policy statements and appropriate Internet use agreements from other hospitals and use them to draft your own statements. As a corollary, avoid promoting "fun" sites. Sometimes it takes knowing that the administrator's favorite team has a Web site packed with special information to get that person's attention. But avoid talking up Web sites that are not productive uses of hospital staff time. It may take longer to get people enthused, but insist on focusing on the work-related value of Internet access if you want administrator commitment and support.

Promotional Materials Coming Soon!

The National Library of Medicine is developing materials to help you get an Internet connection in your library. JCAHO representatives, hospital administrators, and medical librarians emphasize the practical uses of the Internet in a brochure targeting decision makers in your institution. The brochure will be sent to librarians identified in the NLM Internet Connectivity Survey in the spring. If you would like to receive a copy, please call your GMR state contact librarian at 800-338-7657.

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Purpose of NLM's Reinvention Project

NLM's reinvention goal is to speed the transition from our "ancient" legacy systems to more modern computer and communications architectures that will allow us to develop, field and maintain new and improved systems more efficiently. To the extent possible, NLM will use commercially-developed software packages to minimize the expense associated with custom-built programs.

NLM's current legacy systems rely heavily on 1970s technology, e.g., large mainframe computers, custom-built retrieval software, mainframe database management systems, and many different custom-built user interfaces for different data creation, maintenance, and service tasks. These applications represented important breakthroughs when first implemented, but they lack flexibility and are increasingly difficult to maintain, let alone improve. For example, it is impractical to incorporate use of the UMLS Knowledge Sources into NLM's complex legacy systems, even though the UMLS resources could improve their functionality.

The NLM staff members who built and understand these complex and custom legacy systems are gradually retiring or moving on to new opportunities. Their expertise is essentially irreplaceable. The underlying programming languages and commercial database systems in NLM's legacy systems are foreign to most computer science graduates of the last 10 years. Excellent computer professionals naturally wish to work closer to the leading edge of technology.

The bottom line is that NLM must move to a more modern system architecture if it is to maintain and enhance its information services. The schedule for the transition is being geared to the reality of what can be accomplished within a given time frame and is influenced in part by various Federal mandates, including deadlines for Year 2000 compliance and for consolidating government mainframe computer installations.

Project Organization and Status

NLM's System Reinvention effort is organized into three related parts, under the overall direction of a team of NLM senior staff members. The three subprojects and their current status are as follows:

Internal Support — automated support for acquiring, cataloging, managing, and preserving the NLM collection; for onsite circulation and remote document delivery; for creating and maintaining MEDLINE citations; and for developing MeSH.

Relais, a document request processing system originally developed for the Canada Institute of Scientific and Technical Information (CISTI), has been installed to assist NLM in managing its interlibrary loan and onsite circulation operations.

The *Voyager* integrated library system (ILS), a product of the Endeavor Company, has been selected for use in acquisitions, serials control, cataloging, collection management, preservation, and as NLM's public access catalog. NLM expects to begin implementing this system in the fall of 1998, after Endeavor has added features needed by NLM and after NLM has completed some pre-implementation data clean-up tasks. NLM expects to establish an interface between *Voyager* and *Relais*.

Eventually DOCLINE and SERHOLD will rely on the bibliographic data in the *Voyager* ILS. NLM is currently working on plans for moving DOCLINE and SERHOLD functionality to a new systems environment and for continuing their operation during the transition period. *Voyager* is also under consideration as a foundation for a new MEDLINE citation creation and maintenance system.

NLM intends to build a new MeSH maintenance system with the Oracle relational database management system as its foundation.

Retrieval — the underlying retrieval engine(s) to replace ELHILL and the TOXNET search system and to support integrated searching of other types of information, including full-text and images.

After considering and testing other options, NLM has selected the *Entrez* retrieval system that underlies PubMed as the retrieval engine for the bibliographic citation data. *Entrez* will be gradually enhanced to add advanced searching capabilities and additional thesaurus features to its powerful statistical ranking and similarity features. All of NLM's citation databases will eventually be migrated from ELHILL and merged under *Entrez*.

Our current thinking is that *Voyager* will provide the underlying retrieval engine for online access to cataloging and serials data, replacing Locator and the separate CATLINE, AVLINE, and SERLINE files. Other underlying retrieval engines may be used for some TOXNET data and for full-text resources, such as HSTAT.

Access Models — the interfaces used to connect to our services. NLM is focusing its resources on developing Web interfaces to its information services — and particularly on Internet Grateful Med and PubMed. When users access NLM's services via the Web, there is virtually no cost to NLM for telecommunications, no cost for distribution of client programs, and, with registration eliminated, there is enhanced privacy and no administrative billing costs. The result is that NLM is able to provide free Web-based access to its databases.

As NLM surveys have documented, Internet access and Web-capable workstations are spreading rapidly among all segments of NLM's user populations — just as they are in society as a whole. In the longer term, NLM could move to a single Web-based interface that combines the best features of IGM, PubMed, and some of the more traditional advanced searching capabilities. Web interfaces will evolve through the transition period to give NLM greater flexibility in providing free Web-based access to its data.

A small percentage of NLM's users — disproportionately located in smaller hospitals — lacks the Internet access needed to make use of Web-based interfaces. NLM and the Regional Medical Libraries will be targeting special Internet connections programs to assist these users. NLM understands that Internet congestion can impede access to our information services and therefore is studying the Internet throughput problems experienced by our users — both nationally and internationally — in an attempt to pinpoint the causes and to identify short-term remedies. Fortunately, market forces and special technical initiatives, e.g., the Next Generation Internet project, augur well for improvements in the speed and reliability of the Internet.

The Only Constant is Change

As even this brief overview indicates, NLM is undergoing a massive revamping of the automated systems that underlie virtually all of its user services and internal processes. We believe that the result will be better service to all of our users, but the transition will not be easy for any of us. NLM's intent is to minimize disruption to ongoing services to the extent possible, to make use of user expertise in testing and refining new system features, and to keep users informed about system changes. This overview and the following series of articles are designed to assist with the latter. We value your opinions, suggestions, and constructive criticism. If you have questions or comments about System Reinvention or any NLM service or initiative, please send a message to **<custserv@nlm.nih.gov>** or call 1-888-FIND-NLM.

Update on Internet Connections in NN/LM Hospital Libraries

by Becky Lyon and P. Zoë Stavri

In the summer of 1993, the Regional Medical Libraries conducted a survey of all the National Network of Libraries of Medicine member libraries to determine Internet connectivity by type of library (hospital academic and other) (unpublished study). Two years later, in 1995, the National Library of Medicine (NLM) conducted a survey of online users of NLM databases which provided more data to confirm a growing use of the Internet to access databases. (Wood, Wallingford, and Siegel. 1997. 85(4): Transitioning to the Internet: Results of a National Library of Medicine User Survey. *BMLA*. pp.331-340). While this study provided information on the user level, the data could not be compared to the 1993 study to document an increase in the connectivity of member libraries. Thus between May and July of 1997, the NLM conducted a survey of network member libraries.

In addition to updating the information from the 1993 survey, the survey had three goals: 1) to determine the type of access connected member libraries have; 2) to determine perceived barriers to access and their seriousness as reported by libraries that are not connected, and; 3) to determine when libraries that are not connected anticipate they will be connected.

Chart 1 compares, by type of library, the percentage of respondents who were connected in 1993 to the percentage who are connected in 1997. Note that there is a near inversion of the percent of connected hospitals between the two surveys-in 1993, 24% were connected; in 1997, 73% are connected.

Respondents who were not connected to the Internet were asked to respond to the following question: "When does your library plan to connect to the Internet?" As chart 2 shows, 42% of hospital libraries answered that they plan to connect in 12 months or less; 34% don't know when they will connect; and a surprising 10% said they will never connect to the Internet.

Libraries were also asked to rate the seriousness of barriers which might affect their ability to connect to the Internet. The cost of computer hardware, the lack of in-house expertise, and the lack of management support were rated as the most serious barriers.

More detailed results of the survey will be published in the near future. The Regional Medical Libraries have been provided with survey results for libraries in their regions and have met with NLM to develop specific strategies for assisting hospital libraries in connecting to the Internet.

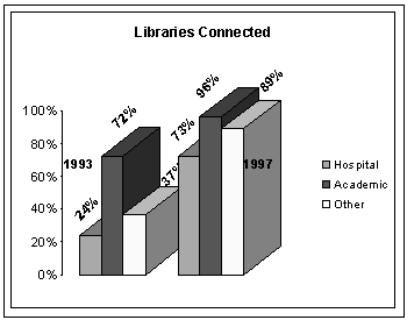

Chart 1

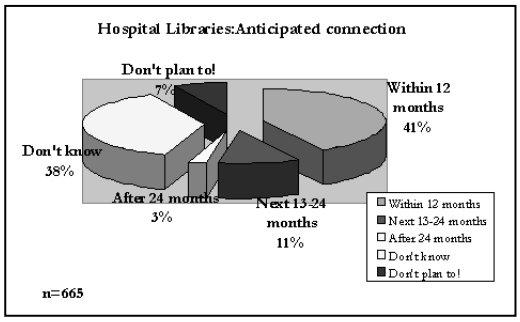

Chart 2

Don't forget about NLM Internet Connections Grants

One way to get funding to bring the Internet to your library is through an NLM Internet Connections Grant. These grants are available to domestic, public and private, nonprofit institutions engaging in health sciences administration, education, research, and/or clinical care.

According the program announcement:
For a single institution, support is available up to $30,000; a group of institutions may receive up to $50,000 to support development of a multi-institution network including extending extant connectivity to outlying sites, or otherwise furthering NLM's goal of expanding information outreach. The overall cost of a connection to the Internet includes: gateway or router equipment, associated communication hardware (CSU/DSU), the leased line and its installation, local area network user support staff, and Internet Service Provider fees. The NLM grant is expected to support the purchase and installation of the gateway system and associated connection hardware, the cost of installation and leasing of communication circuits to connect to the Internet Service Provider, and the cost of Internet Service Provider fees. Institutions are expected to fund personnel, personal computers, and local area network costs. The emphasis of the Internet project should be towards initiating institution-wide Internet access; therefore, costs for Web site development are discouraged. Grant funds may be used to extend Internet access to other sites from an institution with an existing connection.

The full announcement is available via the NLM Web site at **<http://www.nlm.nih.gov/ep/connect.html>**. The deadline for the next round of proposals is June 1, 1998. The GMR can help in a variety of ways. We can provide samples of past successful grant proposals and review your proposal before you send it to NLM. For more information on NLM grants and other funding sources, request a Funding Information Packet from the GMR office.

The Unified Medical Language System (UMLS) and NLM System Reinvention

by Betsy L. Humphreys, Deputy Associate Director, Library Operations and UMLS Project Director, NLM

NLM's Use of the UMLS Depends on System Reinvention

Among its other benefits, System Reinvention will allow NLM to make more effective use of the UMLS in its own information retrieval, data creation, and thesaurus construction applications. As NLM makes progress in modernizing its systems, its use of the UMLS resources will increase.

Since 1990, NLM's UMLS project [1] has distributed annual editions of multi-purpose Knowledge Sources intended for use by system developers. There are now four UMLS Knowledge Sources: the Metathesaurus, the Semantic Network, the SPECIALIST lexicon, and the Information Sources Map. The overall goal of the UMLS project is to facilitate the development of sophisticated applications that can retrieve and integrate related information from different kinds of machine-readable sources, including bibliographic databases like MEDLINE, full-text and factual databases, computer-based patient record systems, and expert systems. The UMLS products are also used in retrieval from individual databases, natural language processing, automated indexing, and structured data creation of many types of information. The UMLS Knowledge Sources are available free of charge under the terms of a license agreement and are available to licensed users on an Internet server and on CD-ROMs. The license agreement is available on NLM's Web site **<http://www.nlm.nih.gov>** along with current fact sheets, documentation, and a comprehensive bibliography covering UMLS papers published from 1986-96.

Developed for use in a wide variety of health information systems, the UMLS Knowledge Sources are clearly applicable to NLM's own online services and internal operations. Unfortunately, it is impractical, if not impossible, to integrate them into ELHILL or NLM's legacy data creation applications. These custom mainframe applications were not designed to interface with external Knowledge Sources of the size and complexity of the UMLS Metathesaurus. Size and complexity also preclude the integration of the Metathesaurus into special NLM clients like the DOS, Mac, and Windows versions of Grateful Med. NLM's Coach Expert Search Assistant for Grateful Med [2] proved this early in the 1990s. Those who tested and used Coach were very enthusiastic about its functionality and its use of the UMLS Metathesaurus, but it was too large and resource-intensive for effective deployment at most local sites. Local workstations and servers have increased in size and speed since the Coach experiments, but the growth of the Metathesaurus has more than kept pace. With 476,322 concepts and 1,051,903 concept names from 40+ vocabularies, the 1998 edition exceeds the comfortable capacity of most workstations and many local servers.

Use of the UMLS in IGM and PubMed

The advent of platform independent Web browsers spurred the development of the Internet Grateful Med (IGM) interface to ELHILL. IGM uses large UMLS files resident on a server at NLM's end to help users with Web browsers to construct effective searches of NLM databases. In essence, IGM delivers Coach-like functionality without taking over each user's machine. IGM uses the Metathesaurus to determine if terms entered by users are synonyms for MeSH headings and to construct ELHILL search strategies accordingly. It also allows users to navigate through the Metathesaurus to find more appropriate search terms.

The modularity of the PubMed's Entrez retrieval system facilitates its use of UMLS data for various purposes. Currently the Metathesaurus is used as one input to Entrez's dictionary of valid multi-word terms. This dictionary is used in indexing PubMed citation data from MEDLINE, PREMEDLINE, and direct publisher input. Like IGM, the latest version of PubMed also treats all Metathesaurus synonyms of MeSH headings as direct entry terms to MeSH.

Additional uses of UMLS Knowledge Sources are likely to be added to later versions of NLM's Web interfaces to its databases — for example, to provide assistance in selecting the NLM resource(s) most likely to be relevant to particular inquiries.

Use of the UMLS in NLM Data Creation

The only routine use of UMLS content in MEDLINE data creation occurs in the relatively new input stream that involves scanning and OCR (optical character recognition). This recently developed module uses data from the UMLS Metathesaurus and SPECIALIST lexicon to reduce the number valid terms flagged as potentially incorrect by the OCR algorithms.

There are periodic batch transfers of information between the internal MeSH and Metathesaurus editing systems, and MeSH analysts routinely look up terms and concepts in the Metathesaurus as they are establishing new MeSH headings. NLM has long planned to establish a tightly integrated MeSH /Metathesaurus editing environment. This cannot be accomplished until MeSH maintenance functions are reimplemented in a relational system with a basic concept structure similar to that of the Metathesaurus. The development of this new MeSH maintenance system is part of NLM System Reinvention.

As NLM reinvents its cataloging and indexing applications, at a minimum we hope to make Metathesaurus synonyms and related terms readily available to assist catalogers and indexers. But we may be able to do much more. The Lister Hill Center and Library Operations are leading an NLM-wide Indexing Initiative to develop and test automated indexing techniques. The goal is to preserve retrieval performance while reducing the level of human intervention required to index the biomedical literature. Many of the techniques being explored make use of one or more of the UMLS resources and employ the Metathesaurus as much more than a word and synonym list.

Expanding Opportunities

The UMLS Knowledge Sources may enable dramatic improvements in information retrieval and database construction. System Reinvention will give NLM a platform that is conducive to designing, implementing, and testing such improvements — whether they are enabled by the UMLS or not.

References:

1. Humphreys BL, Lindberg DAB, Schoolman HM, Barnett GO. The Unified Medical Language System: An Informatics Research Collaboration. J Am Med Inform Assoc 1998 Jan/Feb; 5(1):1-11.

2. Kingsland LC 3d, Harbourt AM, Syed EJ, Schuyler PL. Coach: Applying UMLS Knowledge Sources in an Expert Searcher Environment. Bull Med Libr Assoc 1993 Apr; 81(2):178-83.

The Passing of GM Software

by Chris Shaffer, Technology Coordinator

It's sad, but true. The Grateful Med (GM) software programs that many of us have grown to love are going away. NLM has removed software GM from the NLM FTP server, and NTIS is no longer selling the programs and manuals. As you can see from the other articles in this newsletter, the Web is the future for National Library of Medicine (NLM) bibliographic database access. If you are using the software versions of Grateful Med, now is the time to switch to Internet Grateful Med and PubMed.

The software versions of Grateful Med currently offer limited functionality. NLM does not plan to update the MeSH headings files used with software GM, which means your thesaurus is a bit out-of-date. The recently created MEDLINE backfile can't be accessed from the menus in software GM, meaning you'll need to use the command language interface to access citations from these years. Software versions of GM won't be updated for other changes to ELHILL and the NLM bibliographic databases either. While you can continue to use your old GM software, don't be surprised the day it fails to work at all. Make the switch to the Web now!

What Is All This About DOCLINE and Telnet?

by Charniel McDaniels, Network Coordinator

Telnet is a feature of the Internet that allows someone to use a computer many miles away as if they were in the same room. This means that when you use DOCLINE you have the same functionality that you had when you accessed the system via the FTS2000 800 number. The National Library of Medicine (NLM) has asked that we all switch to telnet and away from FTS2000. The original request asked that:

"All libraries should plan to start using the Internet to access DOCLINE in 1997. To use DOCLINE over the Internet, a telnet client is needed."

Well here we are in early 1998. I implore you again to switch to a telnet client now. We can assist you in this transition. Just give us a call or do some research on your own. You may want to start with a NLM Web site **<http://www.nlm.nih.gov/psd/cas/docline/doc_telnet. html/>** that lists some telnet programs known to be compatible with DOCLINE>.

Farewell and Good Luck to Cara

February 11, 1998 was Cara Wilhelm's last day in the GMR office. Cara started working as the communications coordinator for the GMR office in August 1995. She has edited ***3 Sources*** and ***hiiwire***, and served as the GMR state contact librarian to many network members, health professionals, and consumers.

Cara has taken a position as Intranet Content Developer with the Knowledge Center at Heller Financial, Inc. in Chicago. Please join the GMR office in wishing her well in her new position.

State Contact Librarians Revisited

With Cara's departure, you may have a new state contact librarian. Your state contact librarian is your initial point of contact with the GMR office for all your questions, concerns, and needs. Some things your state contact librarian can do:

Help you change your DOCLINE routing table; provide details on applying for an exhibit subcontract; help your consortia get it's members on DOCLINE; review your NLM grant proposal; find an online SERHOLD imputter for you library; provide training on NLM products and services, such as PubMed or DOCLINE; relay your concerns to the National Library of Medicine; attend your state association meetings; and much more!

Identify your state contact librarian in the chart below!

Sheila Brown	Charniel McDaniels	Chris Shaffer
Michigan	Indiana	Illinois
Minnesota	Kentucky	Iowa
North Dakota	Ohio	
South Dakota		
Wisconsin		

Important Dates... http://www.nnlm.nlm.nih.gov/gmr/calendar/

March 5, 1998

Quad Cities Consortia
Train-the-trainer
IGM/PubMed for Health Professionals
Quad Cities, Iowa

April 15-17, 1998

Indiana State Health Librarian Association Meeting
Nashville, IN

April 17, 1998

Iowa Library Association, Health Sciences Library Rountable
Train-the-trainer
IGM/PubMed for Health Professionals
Sioux City, Iowa

April 26-28, 1998

Wisconsin Health Science Libraries Association (WHSLA) Annual Conference
Madison, Wisconsin

May 6, 1998

Upstate Consortium Train-the-trainer IGM/PubMed for Health Professionals
Dekalb, IA

May 8, 1998

"Evidence Based Medicine for Librarians: Planning for Gold"
Chicago, IL

May 22-27, 1998

Medical Library Association, Annual Meeting,
Philadelphia, PA

October 10-13, 1998

"Weaving Our Future"
Midwest Chapter/MLA Annual Meeting,
Lexington, KY (Joint Meeting with Southern Chapter/MLA).
For more information, contact Jane Bryant, **<jbryant@pop.uky.edu>**, 606-323-5715 or Deb Ward, **<muldward@showme.missouri.edu>**.

November 1998

Health Sciences Librarians of Illinois (HSLI) 1998 meeting, Chicago, IL.
For more information, contact Laura Wimmer, Ressurection Medical Center, **<lwimmer@ResHealth.org>**, 773-792-9938.

September 1999

Midwest Chapter, Medical Library Association (MC/MLA) Annual Meeting, Grand Rapids, MI

**** To inquire about the Online Training Center classes, call 800/338-7657 and choose 2 from the menu.***

NLM Automatic SDI Service Moratorium

NLM announced the following in the September-October 1997 *Technical Bulletin*:
Effective immediately, no additional users will be added to the NLM Automatic SDI program, and existing users are advised to add no new searches. The Library is exploring ways that users may obtain the same data in a more timely and more individualized way, and at less expense to both the user and to NLM. Recognizing that transitioning to a new current awareness service may take time, NLM will continue the current Automatic SDI service for at least several months for users who are already receiving the service.

3 Sources

UIC University of Illinois at Chicago

NN/LM GMR
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(M/C 763)
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